



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,585	02/06/2004	Tetsuro Asano	492322017600	2331

25227 7590 09/06/2006

MORRISON & FOERSTER LLP
1650 TYSONS BOULEVARD
SUITE 300
MCLEAN, VA 22102

EXAMINER

SCHILLINGER, LAURA M

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/772,585

Applicant(s)

ASANO ETAL

Examiner

Laura M. Schillinger

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 10-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/4/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tohyama ('323).

Tohyama teaches the following claim limitations as cited below:

1. A semiconductor device comprising;

a substrate (Fig.8 (2));

a plurality of electrodes provided for an operating region formed in the substrate (Fig.8 (8A and 8B));

a plurality of electrode pads formed on the substrate and each connected to a corresponding electrode of the operating region (Fig.8 (bonding pad));

a plurality of wiring connections between one of the electrodes and a corresponding electrode pad (Fig.8 (6)); and

a protecting element formed along each of the wiring connections and comprising a first

Art Unit: 2813

high concentration impurity region formed in the substrate (7), a second high concentration impurity region formed in the substrate (5) and an insulating region between the first and second high concentration impurity regions (3), the protecting element being connected between two electrodes of the plurality of electrodes (8A and B) (Fig.8).

4. The semiconductor device of claim 1 or 2, wherein each of the protecting elements is disposed adjacent one of the electrode pads (Fig.8).

5. The semiconductor device of claim 1 or 2, wherein one of the first and second high concentration impurity regions is connected to part of one of the electrode pads or part of a metal wiring connection connected to one of the electrodes (Fig.8 (7 or 5)).

6 The semiconductor device of claim 1 or 2, wherein one of the first and second high concentration impurity regions is connected to one of the wiring connections (Fig.8 (7 or 5)).

7. The semiconductor device of claim 1 or 2, further comprising a third high concentration impurity region disposed at a periphery of one of the electrode pads, wherein one of the first and second high concentration impurity regions comprises part of the third high concentration impurity region (Fig.8 (7)- this region can be considered both the second and third concentration region since the second comprises the third).

Art Unit: 2813

8. The semiconductor device of claim 1 or 2, wherein one of the wiring connections comprises a resistor (Fig.7 (4)).

9. The semiconductor device of claim 1 or 2, wherein one of the first and second high concentration impurity regions comprises part of one of the wiring connections (Fig.8 (7 or 5)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tohyama ('323).

Tohyama teaches the limitations of claim 1, however fails to compare the breakdown voltage of a circuit with a protection device to a circuit without one to see if the protection aids by 20 volts or more as claimed by the Applicant. However it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tohyama's teachings to include such a feature because the protection device taught by Tohyama is to assist in achieving breakdown voltage protection.

Response to Arguments

Applicant's arguments filed 4/25/06 have been fully considered but they are not persuasive. Applicant argues that wiring layer 6 is not a high concentration impurity region- the

Art Unit: 2813

Examiner agrees; it is noted that the reference numeral (6) indicated by the Examiner in the non final was a typo. However, Applicant had notice that this would be a typo because there was a clear discrepancy of the citations provided for claims 4-5 and 9 which cited 5 and 7 as the first and second high concentration impurity regions. In addition, element 6 is cited as being an electrode pad. Moreover, Applicant is responsible for the reference as a whole and not merely the citations provided by the Examiner. Lastly, elements 5 and 7 constitute high concentration impurity regions within the substrate as claimed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Laura M. Schillinger', with a large, stylized loop at the end.

Laura M Schillinger
Primary Examiner
Art Unit 2813

01/22/06